CLAIMS

1. A communication system comprising first and second communication devices,

wherein said first and second communication devices comprise:

modulating means for sending data at one of a plurality of transfer rates by modulating an electromagnetic wave;

demodulating means for obtaining data sent from another device at one of the plurality of transfer rates by demodulating the electromagnetic wave; and

detecting means for detecting the electromagnetic wave, and

wherein said first communication device starts to output the electromagnetic wave when said detecting means does not detect the electromagnetic wave at the level of a first threshold or more, and

said second communication device requires the electromagnetic wave at the level of a second threshold higher than said first threshold so that said demodulating means obtains the data.

2. A communication system according to Claim 1, wherein said detecting means detects the electromagnetic wave at the level of said first threshold or more and the electromagnetic wave at the level of said second threshold or more, and

said second communication device obtains the data by said demodulating means when said detecting means detects the electromagnetic wave at the level of said second threshold or more.

3. A communication system according to Claim 2, wherein said first and second communication devices further comprise threshold setting means that sets a threshold of the level of the electromagnetic wave detected by said detecting means, and

said detecting means detects the electromagnetic wave at the level of said first threshold or more and the electromagnetic wave at the level of said second threshold or more in accordance with the threshold set by said threshold setting means.

4. A communication system according to Claim 1, wherein said first and second thresholds are set so as to prevent a problem of a hidden-terminal.

5. A communication system according to Claim 1, wherein the data is received/sent by the electromagnetic wave via a coil antenna.

6. A communication device for receiving and sending data by modulating and demodulating an electromagnetic wave, comprising:

electromagnetic-wave generating means for generating an RF (Radio Frequency) field by generating the electromagnetic

wave;

modulating means for sending the data at any of a plurality of transfer rates by modulating the electromagnetic wave;

demodulating means for obtaining the data sent from another device at any of a plurality of transfer rates by demodulating the electromagnetic wave; and

detecting means for detecting the electromagnetic wave,

wherein the output of the electromagnetic wave starts when said detecting means does not detect the electromagnetic wave at the level of a first threshold or more, and

the data is communicated with said other device at the position where the electromagnetic wave reaches at the level of a second threshold or more that is higher than said first threshold.

7. A communication method for receiving and sending data by modulating and demodulating an electromagnetic wave, comprising:

an electromagnetic-wave generating step of generating an RF (Radio Frequency) field by generating the electromagnetic wave;

a modulating step of sending the data by any of a plurality of transfer rates by modulating the electromagnetic wave;

a demodulating step of obtaining the data sent from another device by any of a plurality of transfer rates by demodulating the electromagnetic wave; and

a detecting step of detecting the electromagnetic wave,

wherein the output of the electromagnetic wave starts when said detecting step does not detect the electromagnetic wave at the level of a first threshold or more, and

the data is communicated with said other device at the position where the electromagnetic wave reaches at the level of a second threshold or more that is higher than said first threshold.

8. A communication device for receiving and sending data by modulating and demodulating an electromagnetic wave, comprising:

modulating means for sending data by one of a plurality of transfer rates by modulating the electromagnetic wave; and

demodulating means for obtaining data sent from another device at one of the plurality of transfer rates by modulating the electromagnetic wave;

wherein when said other device checks that the electromagnetic wave at the level of a first threshold does not exist and starts to output the electromagnetic wave, the acquisition of data by said demodulating means requires the electromagnetic wave at the level of a second threshold

higher than said first threshold or more.

9. A communication device according to Claim 8, further comprising:

detecting means for detecting the electromagnetic wave,

wherein said demodulating means obtains the data when said detecting means detects the electromagnetic wave at the level of said second threshold or more.

10. A communication device according to Claim 9, further comprising:

electromagnetic-wave generating means for generating an RF (Radio Frequency) field by generating the electromagnetic wave,

wherein said modulating means sends the data by modulating the electromagnetic wave outputted by said electromagnetic wave,

said detecting means detects the electromagnetic wave at the level of said first threshold or more and the electromagnetic wave at the level of said second threshold or more, and

an output of the electromagnetic wave from said electromagnetic-wave generating means is started when said detecting means does not detect the electromagnetic wave at the level of said first threshold or more.

11. A communication device according to Claim 8, wherein said modulating means modulates the load of the

electromagnetic wave generated by said other device so sent the data.

12. A communication method for receiving and sending data by modulating and demodulating an electromagnetic wave, comprising:

a modulating step of sending data at one of a plurality of transfer rates by modulating the electromagnetic wave; and

a demodulating step of obtaining the data sent from another device at one of the plurality of transfer rates by demodulating the electromagnetic wave,

wherein when said other device checks that the electromagnetic wave at the level of a first threshold or more does not exist and the output of the electromagnetic wave starts, the data acquisition in said demodulating step requires the electromagnetic wave at the level of a second threshold or more higher than said first threshold.